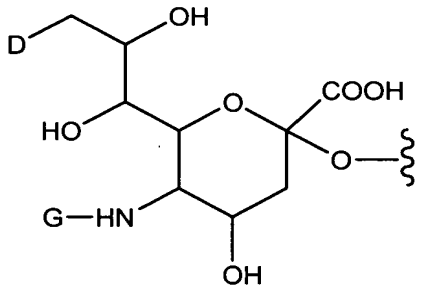
WHAT IS CLAIMED IS:

1. A follicle stimulating hormone peptide comprising the moiety:



wherein

D is a member selected from -OH and R^1-L-HN-;

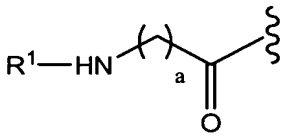
G is a member selected from R^1-L- and -C(O)(C_1-C_6)alkyl;

R^1 is a moiety comprising a member selected a moiety comprising a straight-chain or branched poly(ethylene glycol) residue; and

L is a linker which is a member selected from a bond, substituted or unsubstituted alkyl and substituted or unsubstituted heteroalkyl,

such that when D is OH, G is R^1-L-, and when G is –C(O)(C_1-C_6)alkyl, D is R^1-L-NH-.

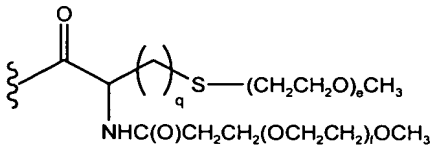
2. The peptide according to claim 1, wherein L-R^1 has the formula:



wherein

a is an integer from 0 to 20.

3. The peptide according to claim 1, wherein R^1 has a structure that is a member selected from:



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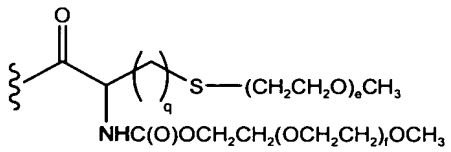
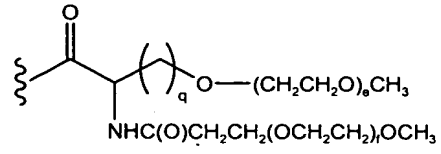
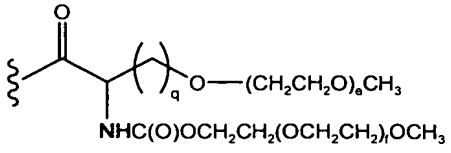




; and

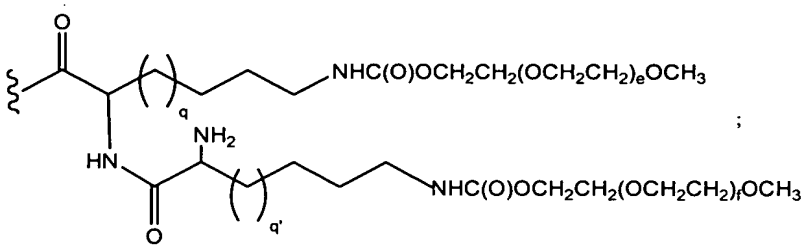


wherein

e and f are integers independently selected from 1 to 2500; and

q is an integer from 0 to 20.

4. The peptide according to claim 1, wherein R^1 has a structure that is a member selected from:



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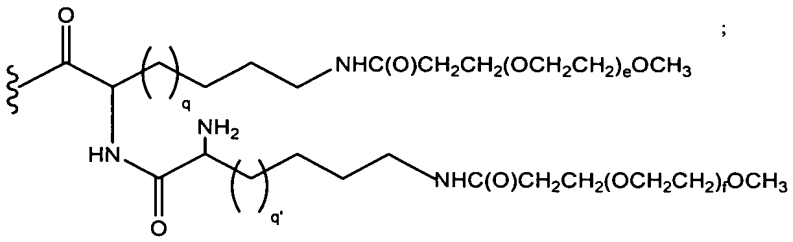

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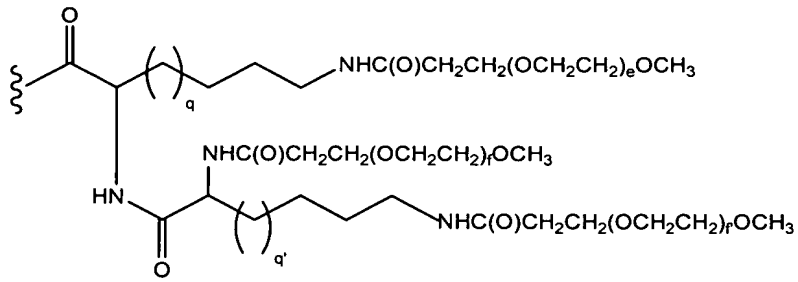
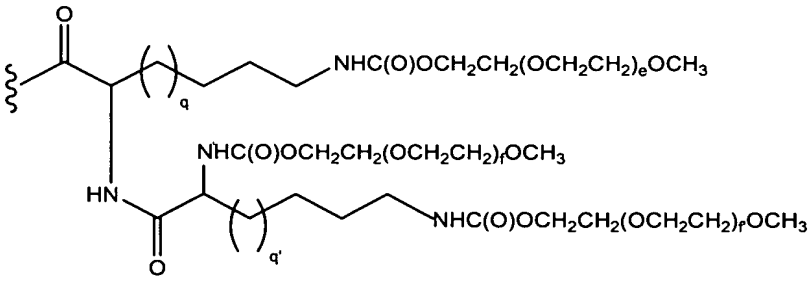


; and

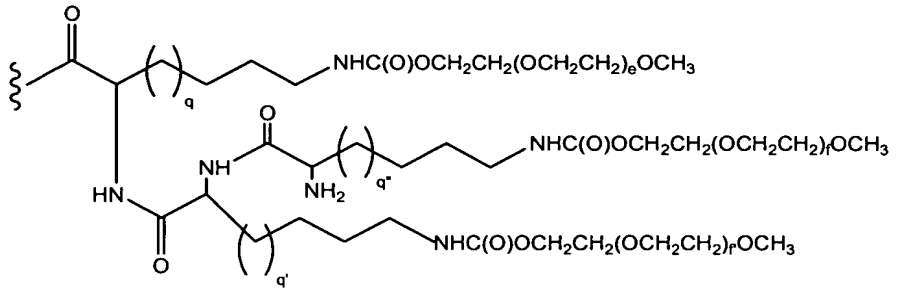


wherein

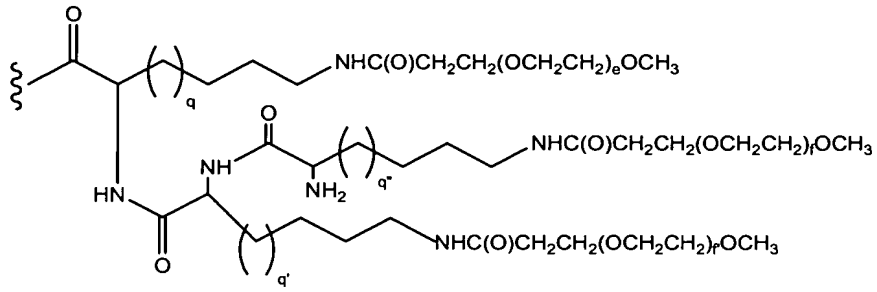
e, f and f' are integers independently selected from 1 to 2500; and

q and q' are integers independently selected from 1 to 20.

5. The peptide according to claim 1, wherein R^1 has a structure that is a member selected from:



; and

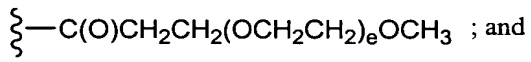


wherein

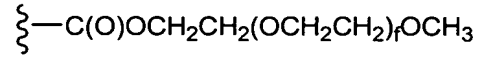
e, f and f' are integers independently selected from 1 to 2500; and

q, q' and q"are integers independently selected from 1 to 20.

6. The peptide according to claim 1, wherein R^1 has a structure that is a member selected from:



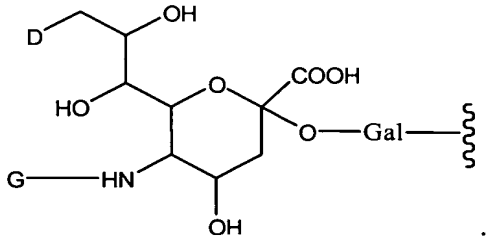
; and



wherein

e and f are integers independently selected from 1 to 2500.

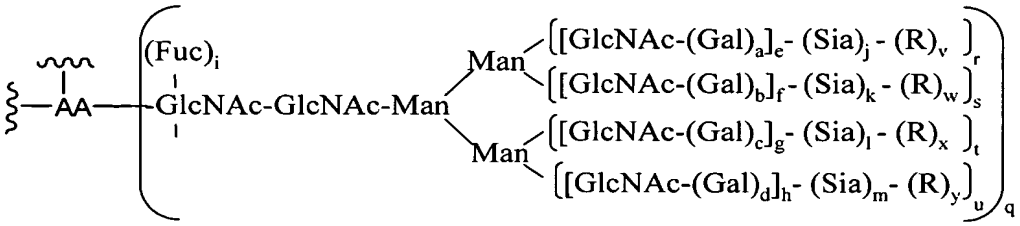
7. The FSH peptide according to claim 1, wherein said moiety has the formula:



.

8. The peptide according to claim 1, wherein said peptide has an amino acid sequence selected from SEQ. ID. NO:1 and SEQ ID NO:2.

9. The FSH peptide according to claim **1**, wherein said moiety has the formula:



wherein

a, b, c, d, i, r, s, t, and u are integers independently selected from 0 and 1;

q is 1;

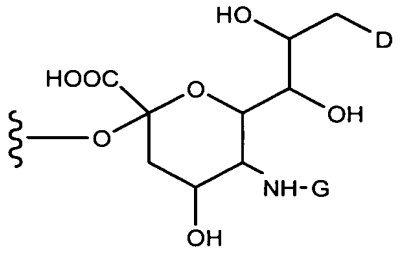
e, f, g, and h are members independently selected from the integers from 0 to 6;

j, k, l, and m are members independently selected from the integers from 0 and 100;

v, w, x, and y are independently selected from 0 and 1, and least one of v, w, x and y is 1;

AA is an amino acid residue of said FSH peptide;

Sia-(R) has the formula:



wherein

D is a member selected from -OH and R^1-L-HN-;

G is a member selected from R^1-L- and -C(O)(C_1-C_6)alkyl;

R^1 is a moiety comprising a member selected a straight-chain or branched poly(ethylene glycol) residue; and

L is a linker which is a member selected from a bond, substituted or unsubstituted alkyl and substituted or unsubstituted heteroalkyl,

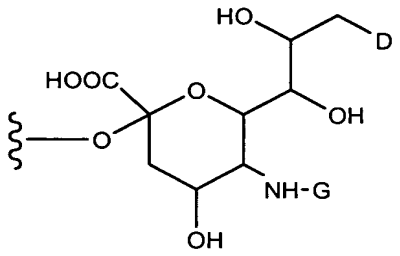
such that when D is OH, G is R^1-L-, and when G is –C(O)(C_1-C_6)alkyl, D is R^1-L-NH-.

10. The peptide according to claim 9, wherein said amino acid residue is an asparagine residue.

11. The peptide according to claim 10, wherein said said amino acid residue is an asparagine residue which is a member selected from N7 of SEQ ID NO:2, N24 of SEQ ID NO:2, N52 of SEQ ID NO:1, and N78 of SEQ ID NO:1, and combinations thereof.

12. The peptide according to claim 1, wherein said peptide is a bioactive follicle stimulating hormone peptide.

13. A method of making a FSH peptide conjugate comprising the moiety:



wherein

D is a member selected from -OH and R^1-L-HN-;

G is a member selected from R^1-L- and -C(O)(C_1-C_6)alkyl;

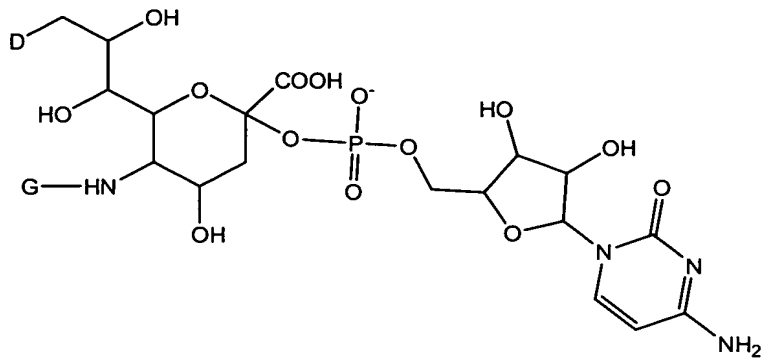
R^1 is a moiety comprising a member selected a straight-chain or branched poly(ethylene glycol) residue; and

L is a linker which is a member selected from a bond, substituted or unsubstituted alkyl and substituted or unsubstituted heteroalkyl,

such that when D is OH, G is R^1-L-, and when G is –C(O)(C_1-C_6)alkyl, D is R^1-L-NH-,

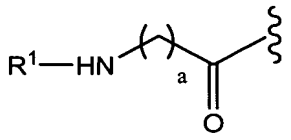
said method comprising:

(a) contacting a substrate FSH peptide with a PEG-sialic acid donor moiety having the formula:



and an enzyme that transfers said PEG-sialic acid onto an amino acid or glycosyl residue of said FSH peptide, under conditions appropriate for the transfer.

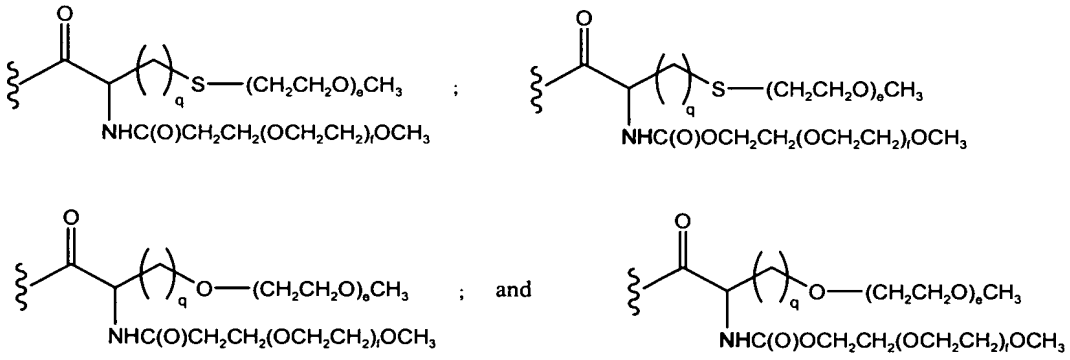
14. The method according to claim 13, wherein L-R^1 has the formula:



wherein

a is an integer from 0 to 20.

15. The method according to claim 13, wherein R^1 has a structure that is a member selected from:

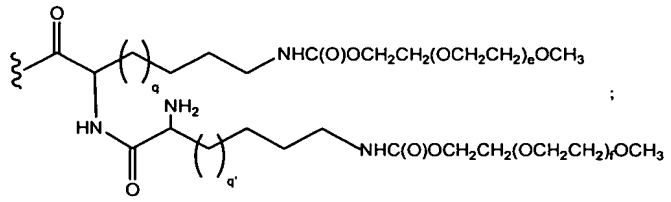


wherein

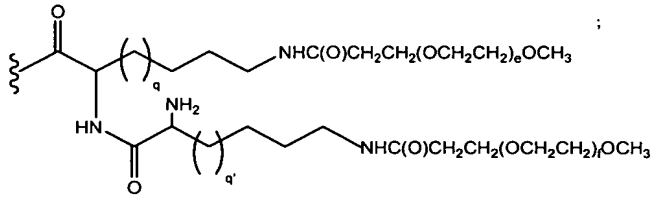
e and f are integers independently selected from 1 to 2500; and

q is an integer from 0 to 20.

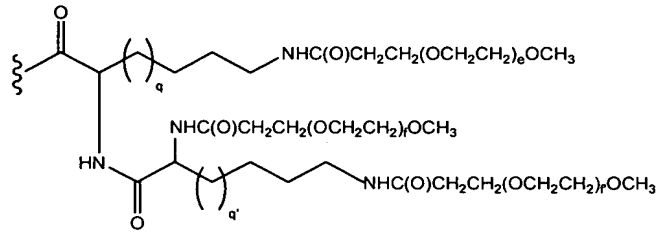
16. The method according to claim 13, wherein R^1 has a structure that is a member selected from:



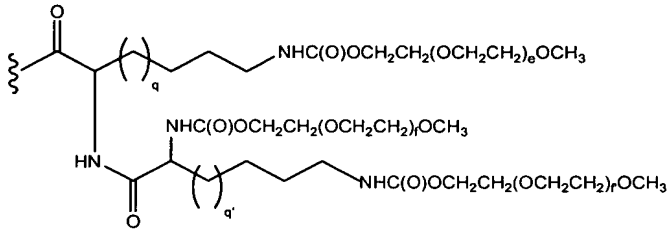
;



;



; and

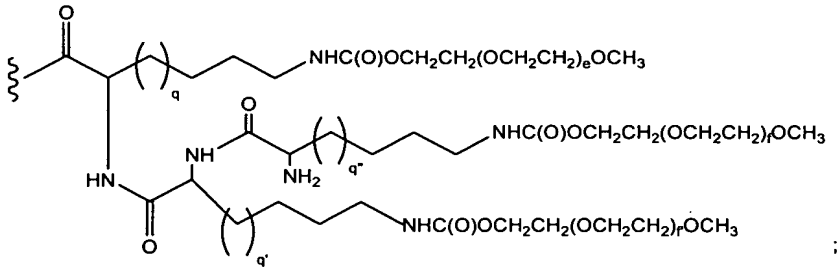


wherein

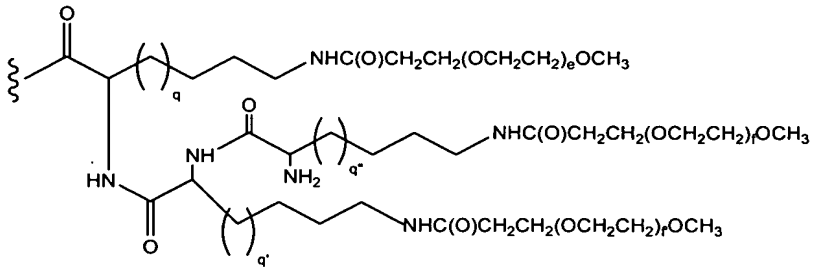
e, f and f' are integers independently selected from 1 to 2500; and

q and q' are integers independently selected from 1 to 20.

17. The method according to claim 13, wherein R^1 has a structure that is a member selected from:



; and

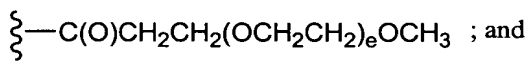


wherein

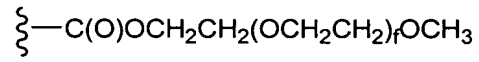
e, f and f' are integers independently selected from 1 to 2500; and

q, q' and q"are integers independently selected from 1 to 20.

18. The method according to claim 13, wherein R^1 has a structure that is a member selected from:



; and



wherein

e and f are integers independently selected from 1 to 2500.

19. The method of claim 13, further comprising, prior to step (a):

(b) expressing said substrate follicle stimulating hormone peptide in a suitable host.

20. The method of claim **13,** wherein said host is selected from an insect cell and a mammalian cell.

21. A method of stimulating ovarian follicles in a mammal, said method comprising administering to said mammal a peptide according to claim 1.

22. A method of treating a condition in a subject in need thereof, said condition characterized by reproductive infertility said method comprising the step of administering to the subject an amount of a peptide according to claim 1, effective to ameliorate said condition in said subject.

23. A pharmaceutical formulation comprising the follicle stimulating hormone peptide according to claim 1, and a pharmaceutically acceptable carrier.